

REMARKS

Claims 1-9 remain in the application. Claim 9 has been amended. Claim 9 was rejected as being indefinite under 35 U.S.C. Section 112. Applicant has amended claim 9 with a view towards correcting the indefinite rejection. Further, applicant notes that the "short pitch wind" configuration is disclosed in Fig. 15 and on page 8, lines 11-18 of the specification. With this amendment, applicants submit that the claims comply with 35 USC 112.

Claims 1-7 and 9 were rejected under 35 USC 103 as being unpatentable over Silvertown in view of Stroppa et al. The action states that Silvertown shows an AC generator comprising a stator assembly including stator slots/teeth and a 5-phase winding without any other winding as well as a plurality of rectifiers to rectify the output voltages generated by the 5-phase winding. The action further states that for the purpose of making an alternator with a claw tooth rotor, Stroppa et al. shows a casing defining an accommodation space, a stator assembly supported in the accommodation space, a rotor assembly including a plurality of pairs of opposed pole members defining rotor pole pairs rotatably disposed inside the stator assembly, the pairs of pole members being configured for energization in opposite magnetic polarity. The action then states that one skilled in the art would put the 5-phase stator of Silvertown in the casing disclosed in Stroppa et al. to obtain applicants' invention. Applicants respectfully traverse this rejection and any rejection based on Silvertown or Stroppa et al.

Applicants' invention is a 5-phase generator. The object of applicants' invention is to significantly reduce the magnetic noise associated with 3-phase generators and dual 3-phase generators. Applicants have accomplished this objective by configuring a unique winding pattern for five windings around a stator assembly.

The Silvertown reference describes a way to get two distinct alternating current outputs of differing phases. The concept disclosed is to use a high number of phases for the first output and then a lower number of taps from the first winding to provide a second output of a lower phase number. The example described in the reference shows a five phase winding with taps to provide additionally a 3-phase output. Applicants' invention differs from Silvertown in that it is a single output power supply. It is not

obvious that a 5-phase stator can provide certain distinct advantages such as lower noise. If taps were added to applicants' invention to provide a second output such as shown in Silvertown, then the noise advantages of the invention would be sacrificed anytime an electrical load was applied to the second output. Therefore, Silvertown does not achieve the same result as applicants' invention.

Stroppa et al. discloses a field exciter of a brushless generator with a separate fractional slot winding for excitation. Stroppa et al. further discloses a 3-phase field exciter which specifically requires the use of a fractional pitch winding such that the number of exciter slots per pole is a non-integer number. The result of such a winding is a dispersion of generated harmonic voltage and resulting current over a wider frequency band. Thus, Stroppa et al. have offered a solution to lessen the voltage and current ripple magnitude of the field circuit of a brushless generator. Therefore, Stroppa et al. addresses the winding of a rotating field exciter of a 3-phase machine while applicants' invention addresses the winding of the stationary stator assembly of a 5-phase machine. Stroppa et al. solves a different problem and is not properly combinable with other references to teach or suggest the structure of applicants' invention.

Any combination of Silvertown and Stroppa et al. would not provide a fundamental 5-phase machine and would not provide the advantage of reducing the magnetic noise associated with 3-phase and dual 3-phase machines. Therefore applicants submit that claim 1 patentability distinguishes over these references.

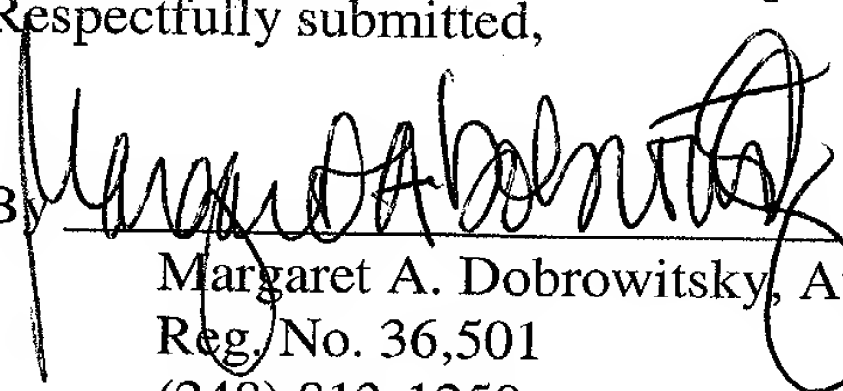
Claims 2-9 depend directly or indirectly from amended claim 1 and include all the limitations therein. It is therefore respectfully submitted that claims 2-9 are also allowable.

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This Amendment is believed to be fully responsive to the issues raised in the Office Action and to place this case in better condition for allowance. Favorable action is requested.

Respectfully submitted,

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Margaret A. Dobrowitsky, Attorney
Reg. No. 36,501
(248) 813-1250

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AMENDMENTS

Version with markings to show changes made

In The Claims:

Amend claim 9 as follows:

9. (Amended) The AC generator of claim 1 wherein at least a portion of the [stator] phase winding is wound [with] in a short pitch winding configuration[, around fewer stator teeth, of the wire].